

People you trust, delivering results.

2004  
Safety Health and Environment  
Report





# Our Business

Nalco Company is the leading global provider of integrated water treatment and process improvement services, chemicals and equipment programs for a variety of industrial and institutional customers. Our products and services are used in water treatment applications to prevent corrosion, contamination and the buildup of harmful deposits, or in production processes to enhance process efficiency and improve our customers' end products.

Through our sales, research and marketing team of more than 6,500 technically trained professionals, we serve more than 60,000 customer locations. We focus on providing our customers with technologically advanced, engineered solutions and services. These solutions and services enable our customers to improve their business by increasing production yields, lowering manufacturing costs, extending asset lives and maintaining environmental standards. We offer the broadest product portfolio in our industry.

## Our Commitment to Safety, Health and the Environment

Nalco has a long history of operating safely, protecting the health of our employees and customers and preserving the environment. We went beyond legal requirements by adding toxicological and regulatory data to our Material Safety Data Sheets, which provide safe use and handling information about our products to our customers. We led the chemical industry in the development of Community Awareness and Emergency Response, the first Code of Management Practices for Responsible Care<sup>®</sup>. Other environmentally beneficial innovations we developed include the PORTA-FEED<sup>®</sup> system of reusable containers, which has eliminated the need to dispose of more than 4 million 55-gallon drums; and ULTIMER<sup>®</sup> oil-free polymers, a U.S. Presidential Green Chemistry Award-winning technology.

Today we participate in the Extended High Production Volume Challenge Program, voluntarily helping to develop health and environmental impact data on high-production volume chemicals. We also continue to develop innovative programs such as 3D TRASAR<sup>®</sup>, SMART Solutions<sup>™</sup> and FREEFLOW<sup>®</sup> that help our customers operate more efficiently, reduce energy and water usage and minimize their impact on the environment.

Our Safety, Health, Environmental and Sustainability Principles and the chemical industry's Responsible Care<sup>®</sup> initiative are guideposts that help all Nalco employees meet our commitment to develop environmentally sustainable and safe solutions for our customers, operate in a safe and efficient manner and strive for continuous improvement in safety, health and environmental protection.

I invite you to review this report, which chronicles our progress on this commitment.

Sincerely,



Dr. William H. Joyce  
Chairman and  
Chief Executive Officer





## Safety, Health, Environmental and Sustainability Principles

Nalco Company manages its global operations with concern for the health and safety of individuals, the environment and with a commitment to global sustainable development. We operate by the following principles:

- Conduct business in a safe, secure and environmentally sound manner, consistent with Responsible Care<sup>®</sup>, the chemical industry's commitment to ensuring a chemical product's safe evolution from concept through customer use, to disposal, recycle or reuse.
- Develop environmentally sustainable and safe solutions through our products, processes and technology that bring value and confidence to our customers, employees, communities and our business.
- Comply with applicable laws and regulations and apply responsible standards where laws and regulations do not exist.
- Operate our facilities in a resource-efficient manner that protects the environment and the health and safety of our employees, contractors and the communities in which we operate.
- Strive for continuous improvement in the area of safety, health and the protection of the environment with the goal of zero injuries, illnesses, incidents, waste generation and emissions.
- Train all employees to work safely, preventing injuries to themselves and others, avoiding damage to property and protecting the public interest.
- Ensure procedures are in place to implement these principles and communicate openly about environment, health and safety issues.
- Support of these principles by all levels of management and all employees.



## Safety Health and Environmental Performance

Nalco's Safety, Health, Environmental and Sustainability Principles include our goal to "Strive for continuous improvement in the area of safety, health and protection of the environment with the goal of zero injuries, illnesses, incidents, waste generation and emissions." The following charts document our progress on achieving that goal.

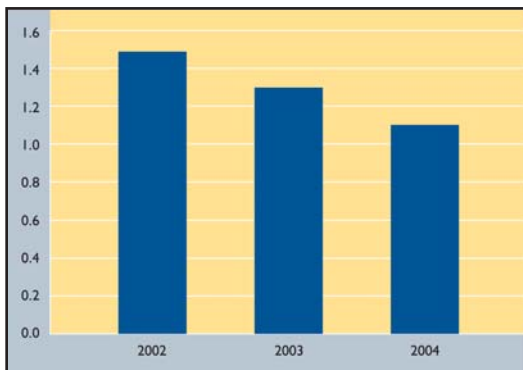
### Safety

#### Employee Safety

The Total Recordable Injury Rate (TRIR) is the U.S. Occupational Safety and Health Administration standard for worker safety. It measures the number of employees with work-related illnesses and injuries per 100 full-time workers. Nalco has adopted this measurement globally as a key employee safety standard and it is a key performance measurement of the American Chemistry Council (ACC), our major U.S. trade association. According to the ACC, its member companies have an employee safety record that is more than four and a half times safer than the U.S. manufacturing sector as a whole.

In 2003, Nalco set a corporate goal to improve its TRIR rate to match that of the top quartile of ACC's member companies by 2005, a rate of 0.7. We made progress toward achieving that goal in 2004, recording a TRIR rate of 1.1, an 18 percent reduction from 2003.

Global Total Recordable Injury Rate  
(per 100 full-time workers)

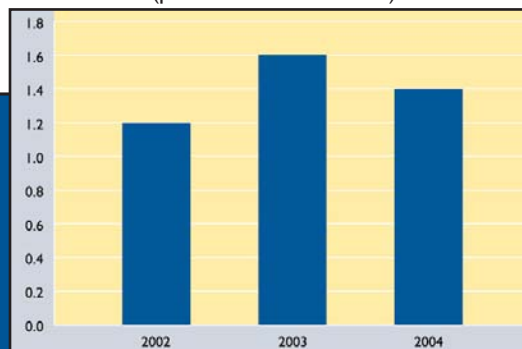


#### Driver Safety

More than half of Nalco's global workforce is comprised of our sales engineers and service technicians, working at a variety of different customer locations. Our risk analysis for those employees has identified driving accidents as the single largest hazard they face on a regular basis.

Our progress in reducing our Preventable Fleet Accident Rate is the key performance indicator of our success in minimizing that risk. Our corporate goal is to achieve a rate of 1.0, or no more than one accident per one million miles driven. The increase in the rate from 2002 to 2003 was due to improved global reporting of vehicle accidents. Our Preventable Fleet Accident Rate for 2004 was 1.4, a 12.5 percent reduction from the 2003 rate of 1.6.

Preventable Fleet Accident Rate  
(per million miles driven)



### Operating safely at customer sites

On any given day, most of our sales, research and marketing team of more than 6,500 technically trained professionals is at work at many of our 60,000 customer locations. Making sure they are doing their job safely is critical to our success. It is also crucial to protecting their safety and the safety of our customers' employees. Our Safety Health and Environment Global Field Safety Strategy helps ensure that safety through three main elements:

**SafeTNet™** provides online, self-paced study courses and monitors a new employee's proficiency via online tests and activities. Sales managers can track and verify training and satisfy customer safety requirements.

**Safety On-Site™ (SOS)** training covers 12 basic life-critical modules, including personal protective equipment, confined space entry and respiratory protection. All new sales and service personnel are to complete it within three to six months of hire. Experienced employees retake SOS training every three years.

**Quarterly District Meeting safety packets** provide videos, presentations and handouts covering a broad spectrum of safety topics.

## Pollution Prevention Honors

Nalco has been honored six times in the United States with an Illinois Governor's Pollution Prevention Award. The recognition includes back-to-back awards in 2003 and 2004 for our Clearing Plant.

The 2003 award was for improvements to our colloidal silica production process that require only one-fifth the amount of steam compared to the older system, saving about 125 million cubic feet of gas and related emissions annually. The new process also saves about 28.2 million gallons of water and 32,000 gallons of treatment chemicals annually.

The 2004 award recognized process improvements that reduced the amount of wastewater treatment chemicals the plant used by 64 percent and the amount of solids in the wastewater by 46 percent. Inventory and recycling projects also reduced plant-produced waste by 4.1 percent.

Nalco also won Illinois Governor's Pollution Prevention Awards in 1999, 1998, 1993 and 1991.

## Environment

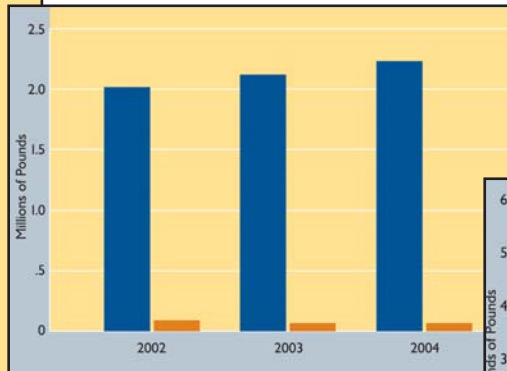
### Waste Index

The Global Waste Index compares the total amount of products made by Nalco manufacturing plants to the amount of waste generated by those production processes. It is a measure of our manufacturing efficiency and our ability to reduce waste generation.

From 2002 to 2004, Nalco's global production increased by 7.7 percent, while the amount of waste generated dropped by nearly 20 percent.

Global Waste Index

■ Product Produced  
■ Waste Generated



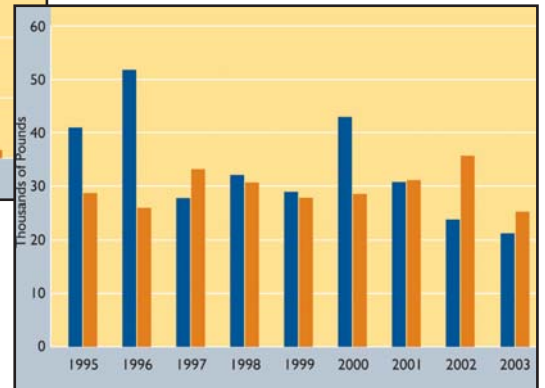
### Toxics Release Inventory Emissions

The Toxics Release Inventory is a publicly available U.S. Environmental Protection Agency database that contains information on toxic chemical releases and other waste management activities at U.S. plants across a number of industries. The most recent information available in 2004 covers emissions through calendar year 2003.

Despite year-to-year fluctuations, both air and water emissions from Nalco plants have been trending downward. Since 1995, on-site air emissions have decreased 46.2 percent, and on-site water emissions have declined 11.5 percent.

USEPA Toxics Release Inventory

■ Releases to Air  
■ Releases to Water



## Sustainability

Our efforts to reduce greenhouse gas emissions and increase energy efficiency demonstrate our commitment to sustainable development. They are also key public metrics that the American Chemistry Council has selected to be reported publicly by all companies that have committed themselves to Responsible Care®.

### Greenhouse Gases

This chart compares the amount of Nalco's manufacturing production to the amount of greenhouse gases our production facilities produce. The gases included in these calculations are carbon dioxide (CO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) and methane (CH<sub>4</sub>). Between 2002 and 2004, Nalco's production increased by 7.7 percent, while the amount of greenhouse gases produced declined by 10.4 percent.

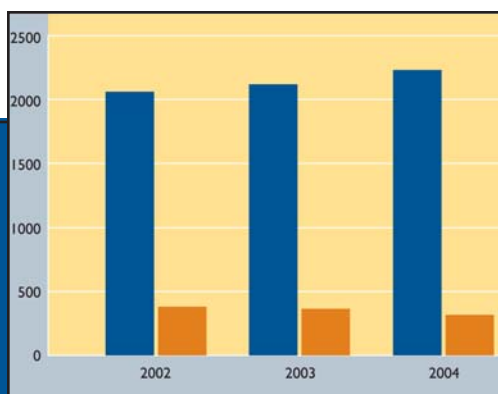
Nalco and all other American Chemistry Council members are committed to reducing the intensity of greenhouse gas emissions (the ratio of greenhouse gases to economic output) by 18 percent by 2012.

### Energy Efficiency

This chart compares the amount of Nalco's manufacturing production to the amount of energy (measured in British Thermal Units) consumed (a combination of electricity, natural gas and distillate). Between 2002 and 2004, Nalco's production increased by 7.7 percent, while the amount of energy consumed declined by 10.5 percent.

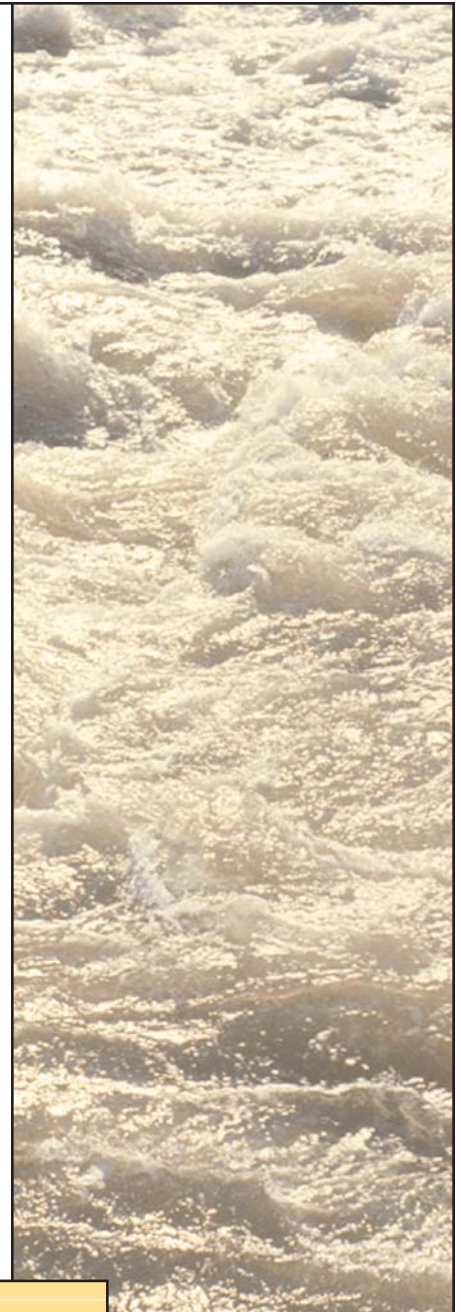
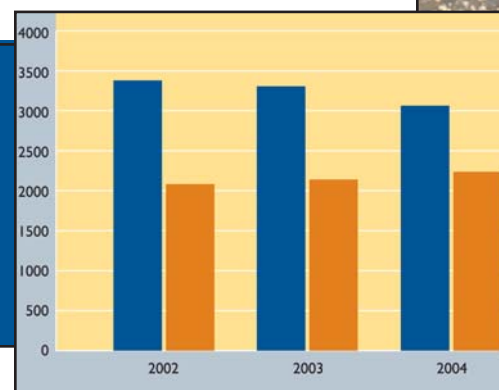
Global Greenhouse Gas Emissions

■ Product Produced (millions of pounds)  
■ Greenhouse Gases (thousands of pounds)



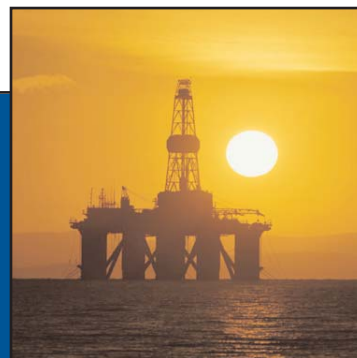
Global Energy Efficiency

■ Energy Consumed (billions of BTUs)  
■ Product Produced (millions of pounds)



## Nalco Technologies Help Our Customers Protect the Environment

Throughout our history we have always sought to help customers best use water, a precious resource. Our programs, services and systems include water conservation and reuse, wastewater treatment, oil/water separation and sludge dewatering. Through many of our programs we help customers save energy and water, reduce waste and protect the environment.



### 3D TRASAR®

Our 3D TRASAR program provides customers with a more efficient way to manage a cooling system because it responds to the actual stresses placed upon the system. Whether in large industrial plants or office buildings, cooling systems have to respond to constantly changing conditions. When system stress is too high, operational problems – scale, corrosion or microbial fouling – occur. When stress is too low, water and treatment chemicals are wasted. 3D TRASAR measures key parameters related to system stress, detects upsets and takes appropriate corrective actions to maximize performance and minimize environmental impacts.

A 3D TRASAR program allowed Treasure Island Hotel and Casino in Las Vegas to cut its cooling system electricity and water bills, even though the summer was hotter than normal and the local electric utility raised their rates. The hotel was also able to reduce their water consumption by 2.4 million gallons. "To aggressively save water is the right decision for the good of our desert community, and it equally makes good financial and business sense," according to Mike Longj, Vice President and CFO

of Treasure Island Hotel and Casino. In addition to saving water and other operational costs, a new corrosion inhibitor developed by Nalco, Phosphino Succinic Oligomer, has allowed many users to eliminate discharge of heavy metals, like zinc and molybdenum, and reduce the discharge of phosphate to the environment.

One of the most innovative aspects of the 3D TRASAR program involves continuous measurement and control of cooling water bio-populations. This technology responds in real time to changes in bio-activity, applying only the biocide necessary to control microbial growth. As a result, biocide use is optimized and halogen and halogenated by-product discharge to the environment is minimized.

### FREEFLOW®

Conventional wisdom says the way to treat hydrate formation – the formation of ice-like masses in flow lines and equipment in oil production and transportation – is with methanol. Nalco researchers had a safer idea.

Our FREEFLOW program inhibits hydrates

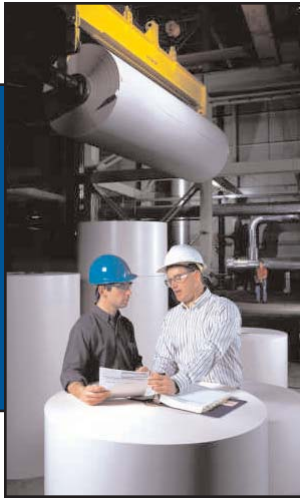
while using a fraction of the volume of methanol normally used. It creates a safer, less toxic production environment to protect our customers' employees, significantly reduces capital and maintenance costs and improves crude oil quality by reducing methanol content.

### Solid TRASAR®

Our TRASAR technology has long provided high performance cooling water treatment for scale and corrosion control. The treatment program is fed to the system using Nalco's traced molecule technology, which reduces the risk of over- or under-feeding.

Our new Solid TRASAR system provides all the benefits of TRASAR but with safer handling. It reduces potential operator exposure risk to chemicals by forming the water treatment corrosion and scale inhibitors and biocides into a solid form that can be shipped using normal commercial carriers in sealed containers. The smaller, lightweight containers are ergonomically designed to reduce the chance of back injuries by our customers' employees.





## SMART Solutions™

Sustainability is a key concern in the paper industry. Nalco's SMART Solutions offering helps customers with energy, water and fiber management during paper production while maximizing operational efficiency and enhancing finished product performance in various grades of paper.

Our energy conservation audit process helps to optimize energy consumption during the papermaking process. This process seeks to optimize boiler water programs and benchmark overall energy management at a mill. We also improve water removal during papermaking, reducing the amount of energy required to dry the sheet.

Our fiber management programs have several advantages. They improve fiber yield in the pulping process so that customers can get a higher percentage of usable fiber from wood chips. They allow production of better-quality pulp through less-harsh cooking of wood chips, which decreases the use of bleaching chemicals to reach target brightness.

They reduce environmental impacts and allow greater use of recycle fiber without compromising product quality. Using advanced Nalco computer modeling allows

our customers to conserve water and reduce the amount of fiber needed to make each ton of paper. Our technologies allow papermakers to reduce their paper's basis weight (i.e. use less fiber to make paper) without compromising product quality. The reduced weight lowers transportation costs for packaging goods and postage costs.

## Nalco ACT® Food Grade

Boiler treatment in a food processing plant requires higher standards because the steam from those boilers can come into contact with food during processing. That means the steam is actually considered an ingredient and must meet stringent regulations. Nalco researchers developed a boiler treatment program using food-grade ingredients that are found in many food products. The program protects our customers' steam systems without imparting odor or taste to the food product. Because it is non-toxic and contains no volatile organic compounds it also enhances in-plant safety for our customers' employees.

## 2004 Safety Milestones

**Biebesheim Plant in Germany** did not have a lost-time accident in 2004.

**Calamba Plant in Philippines** has been accident-free since 1990.

**Citeureup Plant in Indonesia** has been accident-free since April 2001.

**Ellwood City Plant in the U.S.** achieved two years without a recordable injury.

**Evansville Plant in the U.S.** achieved 22 years without a recordable injury.

**Freeport Plant in the U.S.** achieved five years without a recordable injury and 14 years without a lost-time injury.

**Garyville Plant in the U.S.** surpassed one million hours worked without a lost-time accident.

**Green Tree Plant in the U.S.** has not had a lost-time accident since 1980.

**Hu Kou Plant in Taiwan** has been accident-free since 1978.

**Konnagar Plant in India** surpassed one million hours worked without a lost-time accident and has been accident free since March of 1990.

**Nisku Plant in Canada** has not had a reportable incident or reportable environmental spill since it opened in 1993.

**Rayong Plant in Thailand** has been accident-free since 1999.

**Soledad Plant in Colombia** has not had a reportable accident since 1997.

**Sugar Land Pilot Plant in the U.S.** has not had a lost-time accident since it began operations more than 25 years ago.

**Suzano Plant in Brazil** has not had a lost-time accident since November 2001.

## 2004 Awards

**Braskem, the largest petrochemical company in Latin America**, awarded Nalco its Gold Safety Award for the third consecutive year.

**Calamba Plant in Philippines** achieved integrated accreditation to ISO 9001:200, ISO 14001:1996 and OHSAS 18001.

**Clearing Plant in the U.S.** won an Illinois Governor's Pollution Prevention Award for the second straight year.

**Fawley Plant in the U.K.** received a Gold Award from the Royal Society for the Prevention of Accidents for the fourth consecutive year.

**Konnagar Plant in India** achieved integrated accreditation to ISO 9001:200, ISO 14001:1996 and OHSAS 18001.

**Nalco in the Netherlands and Belgium** received the VCA Safety Certificate for Contractors.

**Nisku Plant in Canada** received the Canadian Chemical Producers Safety Excellence Award.

**Sugar Land Plant in the U.S.** was recognized with OSHA's Voluntary Protection Programs Stars Award for exemplary occupational safety and health.

**Quilicura Plant in Chile** received Responsible Care<sup>®</sup> certification from ASIQUIM, the national chemical industry association.

**Weavergate Plant in the U.K.** received the Cheshire County Council award for Business Commitment to the Environment.



The U.S. Occupational Safety and Health Administration awarded our plant in Sugar Land, Texas, its prestigious Volunteer Protection Program (VPP) Star Award in recognition of outstanding workplace safety and health management.

## Community Commitment and Contributions

Nalco employees have always taken great pride in the areas where we live and work. Their involvement and volunteerism is demonstrated through contributions to food and clothing drives, blood donations and many other charities and fundraising programs.

Our Science is Fun program has helped tens of thousands of school children better understand the importance of science during the past 15 years. Through in-classroom demonstrations, our employees conduct a series of experiments that challenge the students to become scientists as they observe, hypothesize, develop and test theories to explore basic concepts of physics and chemistry.

The Nalco Foundation was founded in 1953 to formalize Nalco's growing philanthropic efforts. In recent years those efforts have focused on the United Way in the United States and Water for People globally.



Through Science is Fun, Nalco encourages young students to pursue a career in science.



A local recycling program supported by Nalco provided funds to purchase toys for children living near our plant in Suzano Brazil.

Our employees in the U.S. contributed nearly \$133,000 to United Way programs in their local communities during the 2004 campaign.

The Nalco Foundation donated an additional \$200,000 for a total of nearly \$333,000 – a 17 percent increase from 2003. United Way funds a variety of community programs across three human care areas – helping people in crisis, helping children and youth succeed and helping adults be self-sufficient and care for their families. We are proud to be helping achieve those goals.

Water for People is an international, nonprofit development organization established in the 1990s by members of the American Water Works Association in the United States and Canada. It helps improve the quality of life for the most impoverished people worldwide by supporting locally sustainable drinking water, sanitation and health and hygiene education projects. Water for People funds simple water projects such as community hand pumps, water storage tanks, hand-washing stations, gravity-fed water systems and household latrines.

Nalco is sponsoring a specific Water for People project – the development and lifelong maintenance of a well in the country of Malawi in Africa. Malawi has a population of 11.5 million, a per capita income of \$170 per year and a life expectancy of 40 years. The well will provide safe drinking water for 1,000 people. As the world water treatment leader, the drastic shortage of safe water has particular resonance for Nalco, and our position brings special responsibilities with it. We hope to expand our involvement with Water for People and help bring clean water to people in need in the future.

## Safety, Health and Environmental Web links:

American Chemistry Council's Responsible Care®  
[www.responsiblecare-us.com](http://www.responsiblecare-us.com)

Canadian Chemical Producers Association Responsible Care®  
[www.ccpa.ca/responsiblecare](http://www.ccpa.ca/responsiblecare)

European Chemical Industry Council  
[www.cefic.org](http://www.cefic.org)

European Environment Agency  
[eea.eu.int](http://eea.eu.int)

Global Chemical Industry's Responsible Care®  
[www.responsiblecare.org](http://www.responsiblecare.org)

National Institute for Occupational Safety and Health (NIOSH)  
[www.cdc.gov/niosh](http://www.cdc.gov/niosh)

United States Centers for Disease Control and Prevention  
[www.cdc.gov](http://www.cdc.gov)

United States Environmental Protection Agency  
[www.epa.gov](http://www.epa.gov)

United States Occupational Safety and Health Administration  
[www.osha.gov](http://www.osha.gov)

### NALCO COMPANY OPERATIONS

**North America:** 1601 West Diehl Road • Naperville, Illinois 60563-1198 • USA

**Europe:** Ir.G.Tjalweg 1 • 2342 BV Oegstgeest • The Netherlands

**Asia Pacific:** 2 International Business Park • #02-20 The Strategy Tower 2 • Singapore 609930

**Latin America:** Av. das Nações Unidas 17.891 • 6° Andar 04795-100 • São Paulo • SP • Brazil

[www.nalco.com](http://www.nalco.com)

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